

Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (Currently Amended) ~~Information~~ An information system for providing information in correlation with light incident on an eye, ~~having said~~ systemcomprising:

[[-]] a holographic element disposed in front of the eye; [[.]] and

[[-]] an optical scanning device which detects light incident on the eye by way of the holographic element.

Claim 2. (Cancelled)

Claim 3. (Currently Amended) ~~Information~~ The information system according to Claim 1 ~~or 2~~, wherein the optical scanning device detects light which is ~~refracted~~ diffracted by the holographic element before it impinges on the eye, and does not enter the eye.

Claim 4. (Currently Amended) ~~Information~~ The information system according to ~~one of the preceding claims~~ Claim 1, wherein the optical scanning device detects light which was first reflected back from the eye, ~~and was then refracted~~ diffracted by the holographic element.

Claim 5. (Currently Amended) ~~Information~~ The information system according to ~~one of the preceding claims~~ Claim 1, wherein:

the holographic element ~~refracts~~ diffracts light originating from ~~[[the]]~~ a field of vision of the eye only at several discrete wavelengths in the visible range before the light impinges on the eye for the detection by the optical scanning device; ~~[[.]]~~ and

~~refracts the holographic element~~ diffracts light reflected back from the eye only at one discrete wavelength in the infrared range for the detection by the optical scanning device.

Claim 6. (Currently Amended) ~~Information~~ The information system according to ~~one of the preceding claims~~ Claim 1, wherein:

the holographic element ~~refracts~~ diffracts light originating from ~~[[the]]~~ a field of vision of the eye at fewer than a predetermined number of 20, ~~fewer than 10 or fewer than 5~~ discrete wavelengths in the visible range either before the light impinges on the eye or after its backscattering as a result of the eye, for the detection by the optical scanning device; and ~~[[.]]~~

said predetermined number is selected from the group consisting of 20, 10 and 5.

Claim 7. (Currently Amended) ~~Information~~ The information system according to ~~one of the preceding claims~~ Claim 1, wherein the holographic element ~~refracts~~ diffracts light originating from the field of vision of the eye at a discrete wavelength in the infrared range, ~~either~~ before the light impinges on the eye or after its backscattering as a result of the eye, for the detection by the optical scanning device.

Claim 8. (Currently Amended) ~~Information~~ The information system according to ~~one of the preceding claims~~ Claim 1, wherein the holographic element ~~refracts~~ diffracts light reflected back by the eye only at a discrete wavelength in the infrared range for the detection by the optical scanning device.

Claim 9. (Currently Amended) ~~Information~~ The information system according to ~~one of the preceding claims~~ Claim 1, wherein the holographic element ~~refracts~~ diffracts light of one or several discrete wavelengths, at which the optical scanning device has a high sensitivity.

Claim 10. (Currently Amended) ~~Information~~ The information system according to ~~one of the preceding claims~~ Claim 1, wherein the holographic

element ~~refracts~~ diffracts light ~~a~~ at several discrete wavelengths such that the ~~refracted~~ diffracted light is guided to a common point, and the angle of incidence of the light on this point permits ~~a clear optionally also an unambiguous,~~ wavelength-independent conclusion ~~on the~~ as regards an angle of incidence of the light upon the holographic element.

Claim 11. (Currently Amended) ~~Information~~ The information system according to ~~one of the preceding claims~~ Claim 1, ~~having further comprising an~~ optical projection device which projects light into the eye by way of the holographic element.

Claim 12. (Currently Amended) ~~Information~~ The information system according to Claim 11, wherein ~~[[the]]~~ light detected by the optical detection device and the light projected ~~in front of~~ by the optical projection device ~~run~~ travel in the opposite directions through a common light guiding lens system and can be focused ~~[[such]]~~ by the optical scanning device or projection device such that their respective beams describe the same path from or into the eye.

Claim 13. (Currently Amended) ~~Information~~ An information system for providing information in correlation with information obtained from an eye, ~~having said system comprising:~~

[[-]] a holographic element disposed in front of the eye; [[.]] and

[[-]] an optical projection device which projects light into the eye by way of the holographic element;

wherein the holographic element diffracts wavelengths of the projected light.

Claim 14. (Currently Amended) ~~Information~~ The information system according to ~~one of Claims 11 to 13~~ Claim 13, wherein the optical projection device projects light only at ~~one or several~~ discrete wavelengths in the visible range ~~and/or~~ or at a wavelength in the infrared range.

Claims 15.-16 (Cancelled)

Claim 17. (Currently Amended) ~~Information~~ The information system according to Claim ~~16~~ 13, wherein the holographic element comprises one or more optical ~~flags~~ markings, whose light reflection characteristics can be used by the information system by means of a photodetector for calibrating a projection angle of at least one of the optical projection device ~~and/or~~ and a light guiding device.

Claim 18. (Currently Amended) ~~Information~~ The information system according to Claim ~~17~~ 1, ~~including Point 12, wherein the information system uses the light reflection characteristics of the optical flags~~ wherein the holographic

element comprises at least one optical marking, whose light reflection characteristics can be used by the information system by means of a photodetector for calibrating a scanning angle of at least one of the optical scanning device and/or and a light guiding device.

Claim 19. (Currently Amended) ~~Information~~ The information system according to Claim ~~17~~ 11, wherein the holographic element comprises at least one ~~optical flags are generated in that reflecting elements are imaged during the creating~~ marking created by reproducing mirroring elements in the holographic element during creation of the holographic element such ~~in the holographic element~~ that ~~[[they]]~~ said mirroring elements reflect light of at least one or several wavelengths ~~wavelength~~ that has fallen onto the holographic element ~~which, corresponding to the predetermined angular ratio with respect to from the optical projection device, is incident on the holographic element, back along the path of incidence.~~

Claim 20. (Currently Amended) ~~Information~~ The information system according to Claim ~~19~~ 17, wherein the photodetector device has a splitter mirror ~~which is arranged such~~ in the light beam of the optical projection device such that it guides a portion of the light, ~~which impinges~~ impinging on the splitter mirror against the projection direction, in the direction of a photodetector which detects in at least two areas situated concentrically around one another.

Claim 21. (Currently Amended) ~~Information~~ The information system according to ~~one of the preceding claims~~ Claim 13, wherein the holographic element has ~~light-refracting~~ light-diffracting characteristics at at least one or several discrete wavelengths wavelength, which correspond to a reflection on the concave side of an ~~area~~ surface constructed according to the curvature of a rotationally symmetrical ellipsoid.

Claim 22. (Currently Amended) ~~Information~~ The information system according to ~~one of the preceding claims~~ Claim 13, wherein:

the holographic element has ~~light-refracting~~ light-diffracting characteristics at at least one or several discrete wavelengths wavelength, which ~~correspond~~ corresponds to a ~~refraction~~ diffractive on the concave side of an ~~area~~ surface constructed according to the curvature of a rotationally symmetrical ellipsoid; ~~which refraction~~

said diffractive corresponds to a reflection on a respective conical surface which is rotationally symmetrical about the axis of rotation of the ellipsoid and is perpendicular with respect to the ellipsoid at the site of the ~~refraction~~ diffractive.

Claims 23.-44. (Cancelled)

Claim 45. (New) The information system according to Claim 13, wherein the holographic element comprises at least one optical marking created by reproducing mirroring elements in the holographic element during creation of the holographic element, such that said mirroring elements reflect light of at least one wavelength that has fallen onto the holographic element from the optical projection device, back along the path of incidence.